

In 8th grade, your child will learn a number of skills and ideas that he or she must know and understand to be ready for college and career. Your child will continue to learn how to write and reason with algebraic **expressions**. Your child also will make a thorough study of **linear equations** with one and two variables. Building on previous work with relationships between quantities, your child will be introduced to the idea of a mathematical **function**. And your child will prepare for high school geometry by understanding **congruence** (same shape and size) and similarity of geometric figures.

## Skills Your Child Will Be Working On

- Understanding slope, and relating **linear equations** in two variables to lines in the coordinate plane
- Solving linear equations (e.g.,  $-x + 5(x + 1/3) = 2x - 8$ ); solving pairs of linear equations (e.g.,  $x + 6y = -1$  and  $2x - 2y = 12$ ); and writing equations to solve related word problems
- Understanding **functions** as rules that assign a unique output number to each input number; using linear functions to model relationships
- Analyzing statistical relationships by using a best-fit line (a straight line that models an association between two quantities)
- Working with positive and negative **exponents**, square root and cube root symbols, and scientific notation (e.g., evaluating estimating world population as  $7 \times 10^9$ )
- Understanding **congruence** and similarity using physical models, transparencies, or geometry software (e.g., given two congruent figures, show how to obtain one from the other by a sequence of rotations, translations, and/or reflections)
- Understanding and applying the **Pythagorean Theorem** ( $a^2 + b^2 = c^2$ ) to solve problems

## Learning Activity to Use at Home

For some math concepts, doing the math itself is easy. The hard part is helping your child remember which formula to use for which problem! "Fridge Formulas" are short, daily activities that reinforce the skills which your child is learning in math class. By completing a daily geometry task that you have posted on the refrigerator, your child can quickly commit these formulas to long-term memory. With "Fridge Formulas", your child will see formulas and figures every day, and you will see something even better – progress!

### Activity: Fridge Formulas

#### What You Do:

1. Check with your child's math teacher to find out which formulas the class will be studying in math class.
2. Choose one formula. On white paper, write the formula in red marker and, in black marker, draw and label a figure. For example:  
The formula for finding the area of a rectangle is "area equals length times width:"  $A = L \times W$  make sure to include a picture of the rectangle.
3. During the course of the week have your child post an example of a problem using the selected formula.
4. The following week, choose a new formula and repeat the process.

Example of common middle school formulas include: (Area)

- o Rectangle:  $L \times W$
- o Square:  $B \times H$
- o Triangle:  $\frac{1}{2} B \times H$
- o Circle:  $\pi r^2$

#### Tips:

This activity is also very effective in helping your child develop and retain math vocabulary terms. Each week you can also add a different math term along with a descriptions of what the term means. have your child come up with the list of terms from their math text book or teacher recommended list. Use the cards created on a regular basis with your child so that they are comfortable using the term with conversations about math.

**Teacher and Parent Conferencing** - Topics for ongoing conversations throughout the school year with your child's teacher.

When you talk to the teacher, do not worry about covering everything. Instead, keep the conversation focused on the most important topics. In eighth grade, these include:

- Is your child on track with **expressions** and **equations**, including modeling and association with **linear equations**?

Ask to see a sample of your child's work. Ask the teacher questions such as: Is this piece of work satisfactory? How could it be better? Is my child on track? How can I help my child improve or excel in this area? If my child needs extra support or wants to learn more about a subject, are there resources to help his or her learning outside the classroom?